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REMARKS

In the outstanding Office Action, the Examiner has rejected Claims 1-27, and objected to Claim 20. Claims 1 and 25 have been amended, and Claims 28-30 have been added. No new matter has been added. Reconsideration and allowance of all Claims 1-30 in light of the present remarks is respectfully requested.

Rejections Under 35 U.S.C. § 103(a)

The Examiner has rejected Claims 1-19 and 21-27 under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 3,401,340 to Cronburg, et al., in view of U.S. Patent No. 6,442,378 to Aboukhalil, et al.

Legal Standard for Obviousness

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 180 U.S.P.Q. 580.

Claims 1 and 25

The transponder circuit of amended Claim 1 comprises “an input signal section directly coupled to both a first and a second comparator.” Amended Claim 25 recites a “method of making a transponder circuit, comprising directly coupling an antenna to two separate comparators.”

Regarding Claim 1, the Examiner stated that Cronburg “discloses [a] transponder circuit comprising a received signal section coupled to both a first and second comparator (see for example, Figure 1, column 2, lines 27-31, 44-48, 61-71 continued to column 3, lines 1-37, communication system power control or a booster circuit (transponder) comprising an input section (antenna 14), pilot monitor 20 (first comparator), and a pilot monitor 18 (second comparator)).” Applicant respectfully disagrees with this construction of the circuit described by Cronburg.

Cronburg describes a diversity receiver arranged for use in a system configured for radio transmission over two different channels (A, B) distinguished on a frequency basis. *Cronburg at col. 2, lines 26-31*. The receiver system comprises two radio receivers 10, 12 coupled to an antenna 14 and configured to produce demodulated or baseband outputs corresponding to message information transmitted over channels A and B, respectively. *Col. 2, lines 61-65*;

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Figure 1. A portion of the baseband signals output from each of the radio receivers 10, 12 is applied to a respective pilot monitor 18, 20. *Col. 3, lines 15-17.* As discussed in Cronburg, “such pilot monitors include a filter capable of isolating the pilot frequency and a simple detector circuit which provides a direct-current output signal, the amplitude of which is a measure of the level of the pilot frequency components so isolated.” *Col. 3, lines 17-22.*

As Cronburg’s description of the pilot monitors 18, 20 fails to mention a comparator, Applicant respectfully submits that the pilot monitors 18, 20 cannot be properly construed as anticipating “a first and a second comparator” as recited in Claim 1.

Further in regard to Claim 1, the Examiner stated that Cronburg “does not specifically teach an input signal, however, [Cronburg] teaches the direct connection of the comparator to the input signal through the receiver (see for example, Figure 1, receivers 10, and 12, column 2, lines 61-69, and column 3, lines 23-27).” (emphasis added) The Examiner also stated that “Aboukhalil teaches the direct connection of the input signal to the comparators (see for example, figure 1, column 5, lines 8-27),” (emphasis added) and that it “would have been obvious to one of ordinary skill in the art at the time invention was made to include Aboukhalil’s input signal to comparators with [Cronburg’s] communication system power control circuit to provide ‘improved power control’ booster for wireless communications system (Aboukhalil, see for example, column 1, lines 6-8, and line 24).”

Applicant respectfully submits that the “connection of the comparator to the input signal through the receiver” of Cronburg is not a direct connection as described by the Examiner because the connection is *through* the receiver. Second, the input signal section in Aboukhalil’s power level determination device is not directly coupled to the comparators 410. As shown in Figures 4, 2A, and 5, the comparators 410 are coupled to an active peak detector 200, which is coupled to a detector diode 110, which is coupled to an antenna. *Col. 4, lines 37-39.* Thus, Applicant respectfully submits that Aboukhalil fails to teach an input signal section directly coupled to both a first and second comparator as recited in amended Claim 1, and directly coupling an antenna to two separate comparators as recited in amended Claim 25.

Thus, as neither Cronburg nor Aboukhalil, either alone or in combination, teach or suggest all of the elements recited in each of Claims 1 and 25, Applicant respectfully submits that these claims are in condition for allowance.

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Because Claims 2-10, 26, and 27 depend from Claims 1 and 25, pursuant to 35 U.S.C. § 112, ¶ 4, they incorporate by reference all the limitations of the claim to which they refer. It is therefore submitted that these claims are in condition for allowance at least for the reasons expressed with respect to the independent claim, and for their other features.

Claims 11 and 15

Claim 11 recites a method of “reducing power consumption in a transponder circuit, comprising activating a first comparator prior to receiving a predefined signal, and activating a second comparator in response to an output from said first comparator.” Claim 15 recites a method of “operating a transponder circuit, comprising routing an input signal to a first comparator which is enabled and a second comparator which is disabled, and enabling said second comparator in response to a signal output by said first comparator.”

In regard to Claim 11, the Examiner stated that Cronburg “discloses a method of reducing power consumption in a transponder circuit (... controlling the gain and the signal deterioration reduces power consumption in a power control or a booster circuit (transponder)), comprising activating a first comparator prior to receiving a predefined signal (see for example, column 4, lines 40-48, column 6, lines 24-25, and lines 34-41, the comparator is active prior to receiving), and activating a second comparator in response to an output from said first comparator (see for example, column 6, lines 24-25, and lines 34-41, column 4, lines 40-48, comparator response to the output from the other comparator).” (emphasis added)

First, Applicant respectfully submits that Cronburg does not describe a method of reducing power consumption, and that the diversity receiver described by Cronburg is concerned with selection of the best signal between two channels. There is no discussion in Cronburg of a method of reducing power consumption in a transponder circuit.

Second, Cronburg fails to describe “activating a second comparator in response to an output from [a] first comparator” as recited in Claim 11. In contrast to the Examiner’s statements, Cronburg describes two comparing means which are always active. As recited at col. 6, lines 24-36, a first comparing means compares the levels of the message component signal from the first and second receivers and selectively connects the receiver with the higher available message component to the utilization circuit. The second comparing means compares the level of the message component from the first receiver with a predetermined threshold level and acts

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whenever the level of the message component exceeds the threshold level, “regardless of the receiver selectivity determined by the first comparing means”

Thus, because the second comparing means described by Cronburg acts regardless of the output of the first comparing means, and the second comparing means is not activated “in response to an output of said first comparator” as recited in Claim 11. Similarly, Cronburg’s diversity receiver does not enable a second comparator in response to a signal output by a first comparator, as recited in Claim 15.

Furthermore, Aboukhalil fails to cure the deficiencies of Cronburg. Specifically, Aboukhalil fails to teach or suggest “activating a second comparator in response to an output from said first comparator”, or “enabling said second comparator in response to a signal output by said first comparator.” In fact, the Examiner stated that “Aboukhalil teaches the comparator is active prior to received signal (see for example, figure 1, column 5, lines 8-27),” wherein all of the comparators 410 in Aboukhalil’s comparing means are always active or enabled.

Thus, as neither Cronburg nor Aboukhalil, either alone or in combination, teach or suggest all of the elements recited in each of Claims 11 and 15, Applicant respectfully submits that Claims 11 and 15 are in condition for allowance.

Because Claims 12-14 and 16-21 depend from Claims 11 and 15, pursuant to 35 U.S.C. § 112, ¶ 4, they incorporate by reference all the limitations of the claim to which they refer. It is therefore submitted that these claims are in condition for allowance at least for the reasons expressed with respect to the independent claim, and for their other features.

Claim 22

The transponder circuit of Claim 22 comprises “an input terminal; a first comparator, coupled to said input terminal; a second comparator, coupled to said input terminal; control circuitry, coupled to said first comparator and said second comparator, configured to control the operation of said second comparator by determining a validity status of a signal received from said first comparator.”

In regard to Claim 22, the Examiner stated that Cronburg “discloses a transponder circuit, ... comprising: an input terminal (see for example, Figure 1, antenna (14) ...); a first comparator coupled to said input terminal (see for example, Figure 1, antenna (14) input terminal is connected to the receivers (12) connected to the input of the first pilot monitor 20 (first booster

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or transponder)); a second comparator coupled to said input terminal (see for example, Figure 1, antenna (14) input terminal is connected to the receivers (10) connected to the input of the second pilot monitor 10 (second booster or transponder)).” The Examiner further stated that Cronburg “does not specifically teach an input signal, however, [Cronburg] teaches the direct connection of the comparator to the input signal through the receiver”, and that “Aboukhalil teaches the direct connection of the input signal to the comparators” (citations omitted).

Further in regard to Claim 22, the Examiner stated that Cronburg discloses “control circuitry coupled to said first comparator (see for example, Figure 1, column 4, lines 20-23, Schmitt Trigger 44 (control circuit) connected to the first pilot monitor 20 ...), and control circuitry coupled to said second comparator (see for example, Figure 1, column 4, lines 20-23, Schmitt Trigger 42 (control circuit) connected to the second pilot monitor 10 [sic] ...), configured to control the operation of said second comparator by determining a validity status of a signal received from said first comparator (see for example, column 6, lines 24-25, lines 34-41, column 4, lines 40-48, comparator response to the output from the comparator).” (emphasis added). Applicant respectfully disagrees.

First, the Schmitt Triggers 42, 44 do not control the operation of the second pilot monitor 18 by determining a validity status of a signal received from the first pilot monitor 20. The Schmitt Triggers 42, 44 do not determine a validity status of a signal received from the pilot monitors 18, 20, and the operation of the Schmitt Trigger connected to the second pilot monitor does not control the operation the first pilot monitor.

Second, the passages in Cronburg referred to by the Examiner as teaching the control of “the operation of the second comparator by determining the validity status of a signal received from the first comparator” do not refer to the pilot monitors or the operation thereof, but the differential amplifiers 32 and 36. Thus, the Examiner’s application of Cronburg to Claim 22 is inconsistent, as it is not clear whether the pilot monitors 18, 20 or the differential amplifiers 32 and 36 are cited as teaching the first and second comparators recited in Claim 22. Regardless, Cronburg fails to describe control circuitry configured to control the operation of a second comparator by determining a validity status of a signal received from a first comparator. Specifically, Cronburg fails to describe control circuitry configured to control the operation of the second differential amplifier 36 by determining a validity status of a signal received from the

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first differential amplifier 34. In contrast, as discussed in reference to Claims 11 and 15, the second differential amplifier 36 (or comparing means as recited in col. 6) acts regardless of the output of the first differential amplifier 34. *Col. 6, lines 24-36*. Also, there is no discussion in Cronburg of “determining a validity status of a signal received from” the first differential amplifier.

Furthermore, Aboukhalil fails to describe or suggest controlling the operation of a second comparator by determining the validity status of a signal received from a first comparator. Thus, as neither Cronburg nor Aboukhalil, either alone or in combination, teach or suggest every element as recited in Claim 22, Applicant respectfully submits that Claim 22 is in condition for allowance.

Consequently, because they incorporate all of the limitations of the claim from which they depend, Claims 23 and 24 also define patentable subject matter for at least the same reasons as set forth above with respect to the independent claim.

Discussion of Claim 20

Applicant notes that the Office Action did not include a rejection of Claim 20, and that the “Office Action Summary” indicates that Claim 20 was objected to. Because there was no discussion of Claim 20 in the “Detailed Action”, Applicant assumes the claim is objected to as being dependent upon a rejected base claim, and that the claim would be allowable if rewritten in independent form. However, as discussed above, Applicant respectfully submits that the base claim, Claim 15, is in condition for allowance.

New Claims 28-30

New independent Claims 28-30 have been added, each of which recite features neither taught nor suggested by the prior art of record. Each new claim is discussed individually below.

New independent Claim 28 recites features similar to those recited in dependent Claim 2. Specifically, the transponder circuit of Claim 28 comprises “an input signal section coupled to both a first and a second comparator, wherein said first comparator consumes less power than said second comparator.” In regard to Claim 2, the Examiner stated that Cronburg “teaches wherein said first comparator consumes less power than said second comparator (see for

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example, column 4, lines 40-47, the pilot monitor 20 (first comparator) covers for the low power gain, and consumes less power)." (emphasis added) Applicant respectfully disagrees.

Cronburg at column 4, lines 40-47, describes the operation of the differential amplifiers 32, 36 in selecting the output from either the preferred receiver 10 or the receiver 12, and does not reference the pilot monitor 20. Specifically, the passage recites that the receiver 10 is preferred as a source of output signal if it provides an output, indicated by the automatic gain control signal, which is greater than the threshold reference level set by the battery 38 regardless of the performance of the receiver 12. *See also Fig. 1.* The cited passage further recites that the receiver 12 is substituted if the performance of the receiver 10 falls below the threshold, and remains substituted until receiver 10 again exceeds the threshold. There is no mention of the power consumption of the pilot monitor 20 or the differential amplifiers 32, 36. Thus, Applicant respectfully submits that the prior art of record fails to teach or suggest every element recited in new Claim 28, and that new Claim 28 is therefore in condition for allowance.

New independent Claim 29 recites features similar to those recited in dependent Claim 3. Specifically, the transponder circuit of new Claim 29 comprises "an input signal section coupled to both a first and a second comparator, wherein said second comparator operates at a higher speed than said first comparator." In regard to Claim 3, the Examiner stated that Cronburg "teaches wherein said second comparator operates at a higher speed than said first comparator (see for example, column 4, lines 40-47, column 2, lines 44-48, the pilot monitor 10 (second comparator) covers for the high power gain)." (emphasis added)

Applicant first notes that neither the passage at column 4, lines 40-47, nor the passage at column 2, lines 44-48, of Cronburg are in reference to the pilot monitor 20. Second, Applicant respectfully submits that whether or not the pilot monitor 20 or one of the differential amplifiers "covers for the high power gain" of another element cannot be properly construed as teaching a second comparator operating at a higher speed than a first comparator. Thus, Applicant respectfully submits that the prior art of record fails to teach or suggest every element as recited in new Claim 29, and therefore new Claim 29 is in condition for allowance.

Finally, the transponder circuit of new independent Claim 30 comprises, *inter alia*, a first comparator, coupled to [an] input terminal and configured for operating at a first speed and a first power consumption level; a second comparator, coupled to said input terminal and configured to

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operate at a higher speed and a higher power consumption level than said first comparator; and control circuitry, coupled to said first comparator and said second comparator, and configured to enable said second comparator in response to a signal output by said first comparator.” Applicant respectfully submits that the prior art of record fails to teach or suggest every element recited in new Claim 30, and that new Claim 30 is therefore in condition for allowance.

Conclusion

Applicant has endeavored to address all of the Examiner’s concerns as expressed in the outstanding Office Action. Accordingly, amendments to the claims for patentability purposes pursuant to statutory section 103, the reasons therefor, and arguments in support of the patentability of the pending claim set are presented above. In light of these amendments and remarks, reconsideration and withdrawal of the outstanding rejections is respectfully requested.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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Dated: _____

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